

Brightwater

T R E A T M E N T S Y S T E M

West Conveyance Tunnel completed, but the machine keeps going!



Locomotive entering the tunnel



West tunneling machine cutter head being lifted to the surface at Ballinger Way

In spring 2010, the tunneling machine for the Brightwater West Tunnel contract reached its final destination. The machine, named “Elizabeth,” started mining in 2008 from Point Wells in Richmond Beach, and has progressed four miles to its receiving site along Ballinger Way in Shoreline.

The original plan was for the machine to be dismantled and removed from the portal shaft. But instead Elizabeth will continue mining east to complete the Brightwater conveyance system.

Why? While most elements of the Brightwater project are progressing well, construction delays have affected work on the Central Tunnel contract. One of the machines on this contract, named “Rainier,” started in Kenmore in 2007 and had been mining west towards the Ballinger Way site. However in May 2009, it became damaged and has been stopped under Lake Forest Park since then.

Due to this delay, in February 2010, the county executive issued an emergency declaration and later signed a contract with the West Contractor, Jay Dee Coluccio (JDC) to continue tunneling from Ballinger to complete the remaining 1.9 miles of tunnel section between Shoreline and Lake Forest Park.

The county decided to have the West Tunnel contractor complete this tunnel because it believes the work can be finished sooner and at less cost than was proposed by the original contractor.

“Elizabeth” has now tunneled into the Ballinger Way portal and portions of the machine have been lifted to the surface for reconditioning. Mining will resume in fall 2010 and the remaining tunnel construction will be completed in fall 2011. Construction staging for this last leg of tunneling will be based at Point Wells with crews, concrete tunnel liners and other materials being transported to the front of the tunnel on a small locomotive. Excavated soils will be barged from the site.

After tunneling is done, a number of tasks remain for the conveyance system, including installing pipes in three of the tunnel sections to allow flows to and from the treatment plant, building an underground sampling facility at Point Wells, and constructing above ground odor control facilities at the Ballinger Way and Kenmore locations. As a final step, each site will be restored and landscaped. Work on the conveyance system is scheduled to be completed in fall 2012.



A view down the West Tunnel



Workers installing concrete segments for the tunnel lining



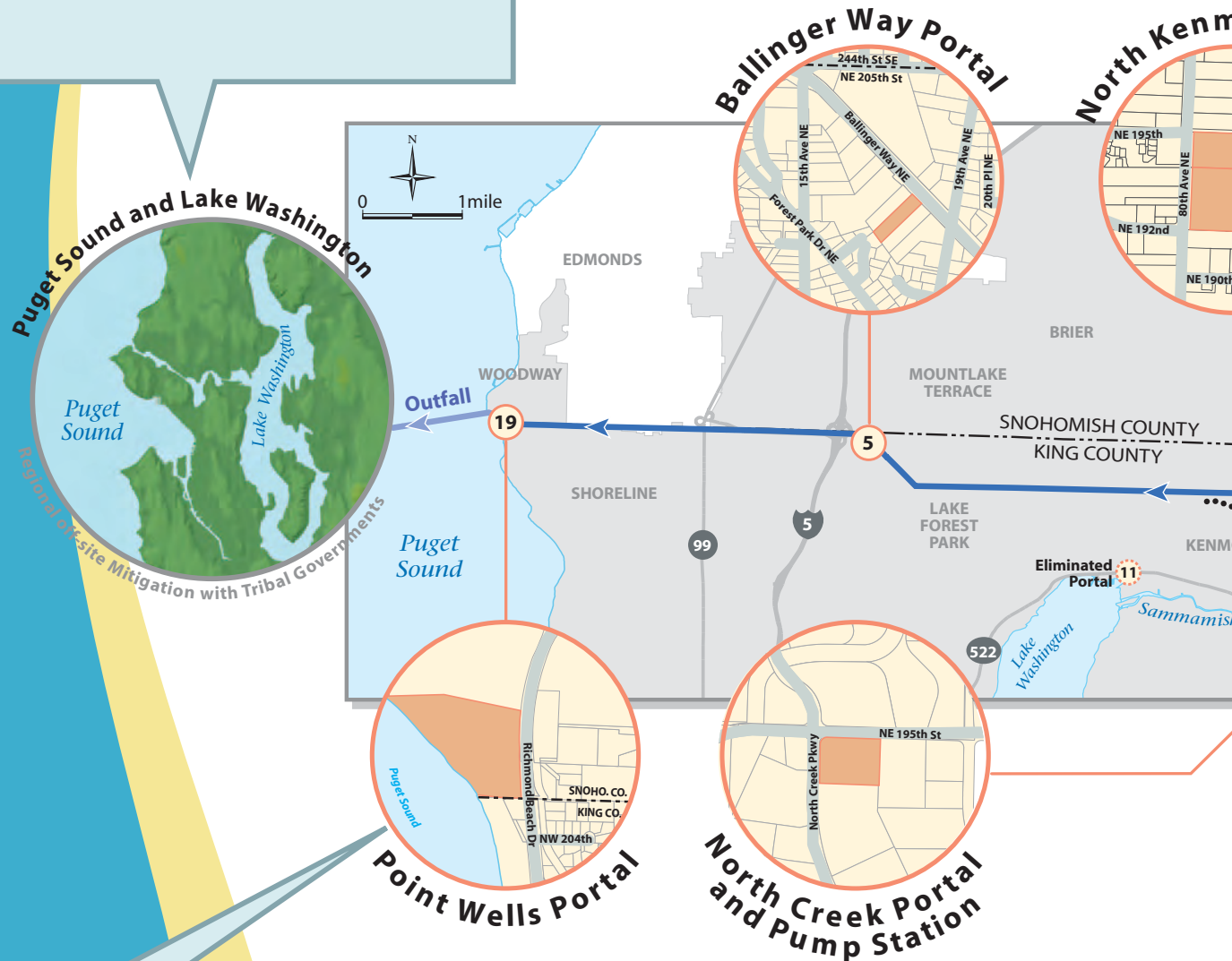
King County

Department of
Natural Resources and Parks
Wastewater Treatment Division

Project Updates

The marine outfall was completed in late 2008. In fall 2009, biologists surveyed the nearshore marine environment and determined that earlier eelgrass plantings, an important species for salmon, are doing well. An additional survey conducted in February 2010 confirmed that the plantings were thriving. In June 2010, the last of five intertidal biota surveys along the nearshore at Point Wells was completed with positive results.

The West Tunnel from Point Wells has been completed. In summer and fall 2010 the Ballinger site will be used to recondition the tunneling machine before it resumes tunneling toward Lake Forest Park. See "West Conveyance Tunnel completed" for more information.

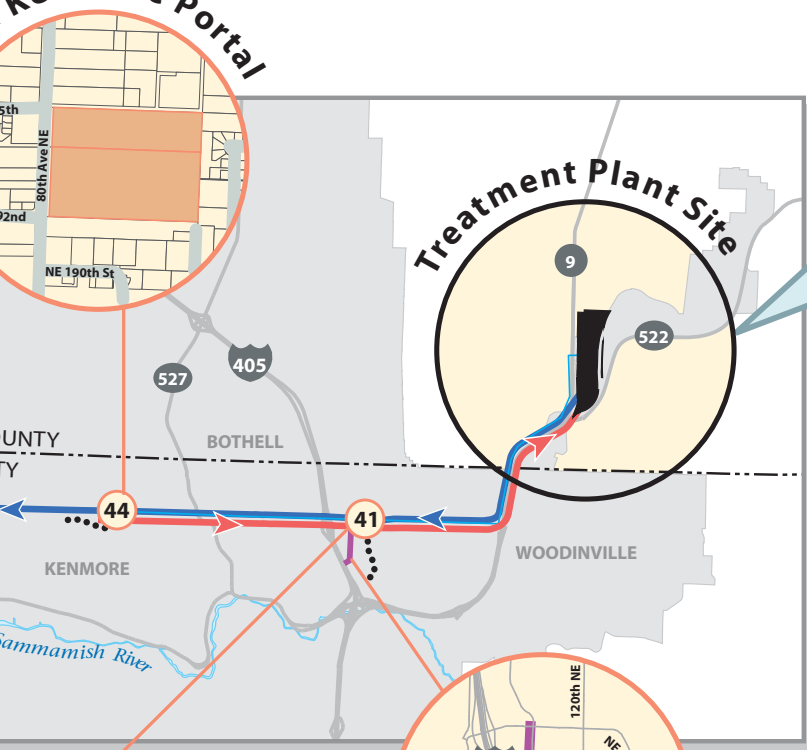


The tunnel boring machine completed its drive from Point Wells to Ballinger in spring 2010. Work on an underground sampling facility and half-mile tunnel liner will occur here after tunneling to Lake Forest Park is complete.

Most of the concrete walls and floors are completed on the Influent Pump Station. Work this summer will center on mechanical and electrical systems. Earlier work at this site included construction of the East tunnel, completed in November of 2008.

Tunneling between Kenmore and North Creek was completed in June. The tunnel machine is now being removed at the North Creek Portal. The second machine, named "Rainier," progressed west about 9,700 feet and is now stopped below Lake Forest Park. The West Tunnel machine is scheduled to complete this tunnel section beginning fall 2010. See "West Conveyance Tunnel completed" for more information.

Kenmore Portal



Construction is progressing on schedule. Most of the concrete and structural work is complete and focus has shifted to installation of mechanical and electrical systems, as well as site utilities. Installation of major equipment will continue through 2010. Equipment and process testing will begin in early 2011.

LEGEND

- Influent
- Effluent
- Reclaimed Water Pipe
- Outfall Pipe
- Local Sewer Connection
- ▶ Direction of Flow
- 5 Portal Number
- Treatment Plant
- Portal Site
- Service Area

Conveyance lines not to scale

Sammamish Valley Reclaimed Water Line

The conversion of the existing 4.5 miles East North Creek Force Main so it can carry reclaimed water and all dedicated reclaimed water lines to serve the Sammamish Valley were completed in 2009 .



Student emcees Jenna Hyppa (left) and Hailey Hunt at EECC groundbreaking

Work underway on the environmental education and community center

Work on a new environmental education and community center is now underway. The center is located on the treatment plant site next to the North Mitigation Area. It is scheduled to open in 2011.

The facility will fulfill the County's obligation to provide community meeting space that was lost when the Bear Creek Grange Hall was demolished to make way for construction of the treatment plant. The facility will also enhance educational opportunities in the areas of wastewater treatment, environmental science, math and other disciplines.

King County is leveraging community partnerships to help defray the costs of designing and eventually operating the \$8.1 million center. A non-profit community environmental group, Friends of the Hidden River, comprised of local teachers, has played an integral role in shaping plans for the center and to date have secured more than \$1 million in grant funding for the facility. In July, the group and King County received a \$40,000 grant for installation of rooftop solar panels.



Artist's renderings of building and one of the labs



This information is provided in alternative formats for individuals with disabilities on request by calling the Wastewater Treatment Division at 206-684-1280 or 711 TTY.



Brightwater Marine Outfall earns engineering awards

The Brightwater marine outfall was completed in late 2008. This included towing two, mile-long pipe sections from along the Snohomish River in Everett where they were built to the outfall location at Point Wells where they were connected to the new Brightwater system. The two pipes were laid parallel to one another and submerged with the outfall reaching a mile offshore.

King County, its consultants and contractors have earned a number of engineering and construction management awards for this project. The most recent is the 2010 Engineering Excellence Gold Award for water and wastewater projects from the American Council of Engineering Companies (ACEC) of Washington. The project was also a finalist in the ACEC national awards.



Outfall pipe being put into place and submerged off of Point Wells, September 2008.



After fabrication, the outfall pipe is placed along the Snohomish River shoreline awaiting tow to outfall location.

Other awards include 2009 “Best of the Best” award from Engineering News-Record magazine published by McGraw-Hill, 2009 ‘Project of the Year’ from the state chapter of the American Public Works Association, Construction Management Achievement for Infrastructure from the Construction Management Association of America, Structural Engineering Honor from the American Society of Civil Engineers Seattle Section, Best Project of 2009 by Northwest Construction Magazine and an Award of Excellence from the Consulting Engineers of British Columbia.

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Updates to Brightwater mail and email lists

In order to update our contact information and also save paper and printing costs, we are trying to send more project updates via email and the web.

If you'd like to switch to email updates, unsubscribe from our project list, or update your information, please contact us at brightwater@kingcounty.gov or 206-263-9453—be sure to include your name and correct email address.



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